



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/164,580 | 10/01/1998 | RICHARD W. ARNOLD | TI-22561 | 6836 |

23494 7590 08/05/2004

TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER

MITCHELL, JAMES M

ART UNIT PAPER NUMBER

2827

DATE MAILED: 08/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/164,580

Applicant(s)

ARNOLD ET AL

Examiner

James M. Mitchell

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 9, 10, 13, 14 and 22-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4 is/are allowed.
- 6) ☒ Claim(s) 9, 10, 13, 14 and 22-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>7/8/04</u> |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's supplemental Appeal Brief has been considered, but a subsequent office action has been issued due to newly cited art.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 9, 10, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Knight et al. (U.S. 6,728,113).

King discloses (Fig 5) discloses (cl. 9) an interconnecting layer for use in a semiconductor package which comprises, (a) an electrically insulating layer (70; "ceramic"; Col. 20, Lines 8-14), (b) electrically conductive paths (76-78) on said layer, each of said paths having first (Left portion i.e. 77) and second (Right portion) spaced apart (i.e. middle portion) regions thereon, said second spaced apart region of each of said paths having a compliant bump ("conductive connections...fabricated by ...compliant...contacts;" not labeled; Col. 20, Lines 22-28) having a height greater than all other structures on said layer; and (c) a standoff ("spacers"; not shown; Col. 16, Lines 59-60) disposed on said layer (i.e. in a position above layer) and having a height

above said layer and less than said bump (i.e., bump also penetrates item 10); (cl. 10) wherein the layer said second region is a bump extending above the level of said electrically conductive path (i.e. compliant bump); (cl. 13 and 14) and said interconnection layer is flexible (Col 20, Lines 8-14).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-31 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Potter (U.S 6, 028, 437).

Allowable Subject Matter

Claims 1-4 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the prior art does not disclose or make obvious an apparatus for testing a semiconductor die comprising a package with a cavity with a die and interconnecting layer disposed in said cavity wherein said interconnecting layer has conductive electrical paths thereon with each path having a first and second spaced region, the first region contacting bond pads on die and including a compliant bump probe tip of a first height and including a standoff having a second height less the first, and an interconnection between a terminal disposed on a periphery of the cavity and the second spaced region including all the limitations of the independent claim.

Response to Arguments

Applicant's arguments, see Pages 4 and 5, filed April 7, 2003, with respect to claim 1 have been fully considered and are persuasive. The rejection of claim 1 and its dependents has been withdrawn.

Applicant's arguments, see Page 6, filed April 7, 2003, with respect to the rejection(s) of claims 9, 10, 13, and 14 under 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Knight et al. (U.S. 6, 728,113).

In an effort to expedite prosecution of applicant's application, argument in appeal brief that may still be relevant are addressed.

Applicant contends that its declaration filed November 15, 2001 stated as a 37 CFR 1.131 should be treated as both a 1.608(b) and 1.131 to invoke an interference. Examiner respectfully disagrees. 37. CFR 1.131 expressly states that it cannot establish priority when the prior art claims the same patentable invention, which is why a greater burden is established pursuant to 1.608 in order for applicant to establish the right to invoke interference. Since applicant has failed to provide the additional support set forth in 1.608, applicant has failed to meet its burden and therefore not entitled to an interference; to treat a 37 C.F.R 1.131 declaration as a 1.608 would eliminate the additional support required pursuant to 37 CFR 1.608. Pursuant to 37 CFR 1.608 (b) when the effective filing date of an application is more than three months after the effective filing date of a patent, the applicant, before an interference will be declared, shall file evidence which may consist of patents or printed publications, other

documents, and one or more affidavits which demonstrate that applicant is prima facie entitled to a judgment relative to the patentee and an explanation stating with particularity the basis upon which the applicant is prima facie entitled to the judgment. Furthermore, while

As for applicant assertion that it is "incumbent upon examiner to declare the interference as requested," applicant has provided no basis for its assertion. Pursuant to 37 C.F. R 1.608, "before an interference will be declared" applicant has to establish a prima facie case that it is entitled to a judgment. Applicant's 1.131 declarations do no more than provide a declaration that the invention was made prior to the cited art. Even the summary section of the invention does nothing to demonstrate that applicant is prima facie entitled to a judgment, for example dates next to signatures filed November 6, 2001 are blank (requirement for proper evidence is set forth by 37 CFR 1.608).

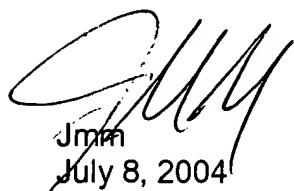
Lastly, although applicant contends that Potter should be disqualified as indicated above, 37. CFR 1.131 expressly states that it cannot establish priority when the prior art claims the same patentable invention.

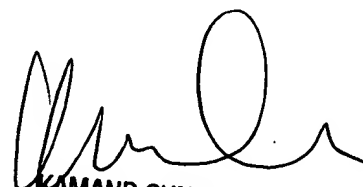
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jmm
July 8, 2004


KAMAND CUNEO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800